

WEST**End of Result Set**☐ **Generate Collection**

L1: Entry 1 of 1

File: USPT

Nov 6, 2001

US-PAT-NO: 6314473

DOCUMENT-IDENTIFIER: US 6314473 B1

TITLE: System for removing selected unwanted frequencies in accordance with altered settings in a user interface of a data storage device

DATE-ISSUED: November 6, 2001

INVENTOR-INFORMATION:

| NAME | CITY | STATE | ZIP CODE | COUNTRY |
|----------------|---------------|-------|----------|---------|
| Singer; Neil | Armonk | NY | | |
| Tanquary; Mark | Needham | MA | | |
| Pasch; Kenneth | North Eastham | MA | | |

US-CL-CURRENT: 710/5; 318/560, 360/73.01, 360/75, 360/78.07

CLAIMS:

What is claimed is:

1. User interface for operatively working with a processor to affect operation of a data storage device, the user interface comprising:
means for providing settings for controlling one of a seek time of the data storage device and an acoustic noise level of the data storage device in inverse relation;
means for indicang to the data storage device that one of the seek time settings of the data storage device and the acoustic noise level settings of the data storage device has been altered; and
means for causing the processor to output commands to the data storage device to alter seek trajectory shape by shaping input sigals to to the data storage dice to reduce selected unwanted frequencies from a plurality of frequencies in accordance with the altered settings in the user interface.
2. A user interface according to claim 1, comprising a sliding bar which moves along a continuum on which data storage device acoustic noise level and seek time vary inversely, the continuum including a first end comprising a high acoustic noise level/low seek time and a second end comprising a low acoustic noise level/high seek time.
3. A user interface according to claim 1 further comprising a display area which displays discrete values corresponding to the acoustic noise level and/or the seek time of the data storage device.
4. A user interface according to claim 1 comprising discrete values which are selectable to alter the acoustic noise level and/or the seek time of the data storage device.
5. A user interface according to claim 1 wherein settings in the user interace override previous settings in the data strage device.
6. A user interface according to claim 1 further comprising a preview setting, the preview setting causing the data storage device to operate an acoustic noise level set in the user interface.
7. A method of controlling operation of a data storage device, comprising:
generating a user interface, the user interface controlling one of a seek time of the data storage device and an acoustic noise level of the data storage device;
altering settings in the user interface for one of the seek time and the acoustic noise level of the data storage device in inverse relation; and
outputting commands to the data storage device to alter seek trajectory shape by shaping input signals to the data storage device to reduce selected unwanted

frequencies from a plurality of frequencies in accordance with the altered set in the user interface.

8. Computer-executable process steps stored on a computer-readable medium, the computer-executable process steps to control operation of a data storage device, the computer-executable process steps comprising:

code to generate a user interface, the user interface controlling one of a seek time of the data storage device and an acoustic noise level of the data storage device;

code to alter settings in the user interface for one of the seek time and the acoustic noise level of the data storage device in inverse relation; and

code to output commands to the data storage device causing the data storage device to alter seek trajectory shape by shaping input signals to the data storage device to reduce selected unwanted frequencies from a plurality of frequencies in accordance with the altered settings in the user interface.

9. Apparatus for controlling operation of a data storage device, the apparatus comprising:

a memory which stores computer-executable process steps; and

a processor which executes the process steps so as (i) to generate a user interface, the user interface controlling one of a seek time of the data storage device and an acoustic noise level of the data storage device, (ii) to alter settings in the user interface for one of the seek time and the acoustic noise level of the data storage device in inverse relation, and (iii) to output commands to the data storage device causing the data storage device to alter seek trajectory shape by shaping input signals to the data storage device to reduce selected unwanted frequencies from a plurality of frequencies in accordance with the altered settings in the user interface.

10. Method of controlling operation of a data storage device, comprising:

providing a user interface for controlling one of a seek time of the data storage device and an acoustic noise level of the data storage device;

operating the user interface so as to alter settings of one of the seek time and the acoustic noise level of the data storage device in inverse relation; and

outputting commands to the data storage device causing the data storage device to alter seek trajectory shape by shaping input signals to the data storage device to reduce selected unwanted frequencies from a plurality of frequencies in accordance with the altered settings.

11. A disk drive operatively controlled by a user interface, said user interface providing settings capable of altering one of a seek time of the disk drive and acoustic noise level of the disk drive in inverse relation, and indicating to the disk drive that one of the seek time settings of the disk drive and the acoustic noise level settings of the disk drive has been altered, the disk drive comprising:

means for performing a seek operation, the seek operation generating a plurality of frequencies; and

means for outputting commands to alter seek trajectory shape by shaping input signals to the means for performing the seek operation to reduce selected unwanted frequencies from said plurality of frequencies in accordance with the altered settings in the user interface.

12. The disk drive of claim 11 wherein the user interface comprises discrete values which are selectable to alter the acoustic noise level and/or the seek time of the disk drive.

13. The disk drive of claim 11 wherein a setting in the user interface overrides a previous setting.

14. Computer-executable process steps stored on a computer-readable medium, the computer-executable process steps to control operation of a data storage device, the computer-executable process steps comprising:

code providing a user interface for controlling one of a seek time of the data storage device and an acoustic noise level of the data storage device;

code to operate the user interface so as to alter settings for one of the seek time and the acoustic noise level of the data storage device in inverse relation; and

code to output commands to the data storage device to alter seek trajectory shape by shaping input signals to the data storage device to reduce selected unwanted frequencies from a plurality of frequencies in accordance with the altered settings in the user interface.

15. Apparatus for controlling operation of a data storage device, The apparatus comprising:

a memory which stores computer-executable process steps; and

a processor which executes the process steps to control, through a user interface, one of a seek time of the data storage device and an acoustic noise level of the

data storage device, so as to alter settings in the user interface for one of the seek time and the acoustic noise level of the data storage device in inverse relation, and to output commands to the data storage device causing the data storage device to alter seek trajectory shape by shaping input signals to the data storage device to reduce selected unwanted frequencies from a plurality of frequencies in accordance with the altered settings.